THE STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of: Preparation of the *2005 Integrated Energy Policy Report*	Docket No: 04-IEP-1K Committee Draft Documents Hearings

S.O.L.I.D. USA, INC. COMMENTS ON COMMITTEE DRAFT DOCUMENTS HEARINGS

October 14, 2005

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S.O.L.I.D. USA, Inc. (SOLID) respectfully submits the following comments. SOLID is an Arizona company established in 2005 as an affiliate and North American license for S.O.L.I.D. GmbH (SOLID Austria). SOLID Austria has been in business since 1991, manufacturing and developing commercial solar space heating, air conditioning, domestic hot water, and process heat systems. SOLID has installed over 100 large scale projects all over Europe, including five of the seven largest solar thermal projects in the world in the last five years. SOLID Austria is currently expanding into China and the U.S., through SOLID USA. SOLID also plans to introduce a residential solar HVAC system into the U.S. in the next few years.

INTRODUCTION

Commercial and industrial (C&I) solar thermal systems are an emerging part of the solar industry in the United States. C&I solar thermal systems include commercial HVAC (heating, ventilation and air conditioning) systems for space heating, cooling and domestic hot water and industrial process heat systems. Although the basis for this technology has existed for decades, the new generation of this technology is exceptionally efficient, reliable, and cost-effective.

Europe is in the forefront of this developing part of the market; however, with the cooling requirement in the U.S., the U.S. can move to the forefront in this arena. The International Energy Agency believes that if solar thermal systems are utilized to produce all available output, including domestic hot water, process heat, space heating and cooling, they can provide 10 – 13% of the world's total energy requirement.

C&I solar thermal HVAC systems should quickly be allowed to move past the demonstration phase in the U.S. through policy assistance in creating a market. Europe has over 70 large-scale solar HVAC projects in place with thousands of systems providing hot water for district heating systems, heating, and process heat. More systems exist in Asia and more are being added. Currently in the U.S., 1) Arizona has a Solar HVAC Pilot Program and is including this technology in the current revision of its Environmental Portfolio Standard, 2) Nevada, Texas, Pennsylvania, and others are incorporating solar thermal in their portfolios in a way that allows solar HVAC systems to participate, 3) Other states, including New York, are starting to view this technology. In the past year, demonstration projects have been installed in California and Texas and soon in Arizona and Nevada and possibly other states.

Now that California is revising its renewable programs, it should include solar thermal HVAC as a resource.

BENEFITS OF SOLAR HVAC TECHNOLOGY

C&I solar thermal HVAC systems have the following benefits for an RPS:

- Displace a majority of the electricity required for air conditioning
- Address efficiently the largest segment of energy usage in the U.S. - buildings
- Have internal storage in the form of hot and/or chilled water that firm the resource
- Reduce peak electricity requirements by producing energy during peak periods

- Relieve strain on the grid by electric displacement
- Are not interconnected and so have no interconnection issues
- Can include CHP systems
- Have all of the benefits associated with distributed generation
- Are large projects, ranging on average anywhere from 50 kW to over 1 MW electric equivalent

C&I solar thermal HVAC systems have the following additional benefits:

- Provide space heating and domestic hot water
- Reduce natural gas requirements, increasing on-site energy security and reducing price volatility while making more natural gas available for electric generation requirements
- Are a cost effective solar resource, particularly for small, medium, and large commercial and industrial customers, a segment that will allow for large projects that have a significant impact
- Are a highly efficient use of the sun

RECOMMENDATIONS

1) *CEC'S PIER PROGRAM should fund solar thermal HVAC projects for industrial, commercial and residential applications in order to demonstrate the current commercial status this technology has achieved in both the European Union and Asia.*

2) *PUC/CEC California Solar Initiative (CSI) program should provide incentives for solar thermal HVAC applications when the program begins in January of 2006.*

CONCLUSION

Solar HVAC technology can allow California to further take advantage of its solar resource. Including solar HVAC systems in California's portfolio would provide huge opportunities for the commercial sector to participate in a cost-effective way to reduce electric demand with the additional benefits described above and allow companies such as mine to do

business. The European Union has recently realized that renewable cooling and heating has been left behind because it was not originally included in the policy framework for renewables and that it should focus on this technology to allow it to realize its huge market potential. We would like to see California do the same.

Respectfully submitted,

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/s/ Lori A. Glover

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